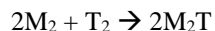


Name \_\_\_\_\_ Period \_\_\_\_\_

**Skill 31.01 Problem 1**

Marshmallows ( $M_2$ ) react with hot tamales ( $T_2$ ) according to the following equation.

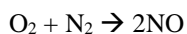


If 5.0 moles of hot tamales react with excess marshmallows, how much in moles of MarshmallowHotTamalide can be made.

Given	Mole ratio	Unknown

**Skill 31.01 Problem 2**

Atmospheric oxygen reacts with nitrogen in automobile engines to produce NO, a poisonous greenhouse gas

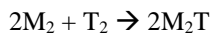


If 5 moles of nitrogen react, how much oxygen gas in moles is consumed?

Given	Mole ratio	Unknown

**Skill 31.02 Problem 1**

Marshmallows ( $M_2$ ) react with hot tamales ( $T_2$ ) according to the following equation.

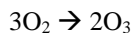


What mass of marshmallows (1 mole  $M_2$  = 11.0 g) is needed to produce 3 moles of MarshmallowHotTamalide.

Given	Mole ratio	Molar mass Unknown	Unknown

**Skill 31.02 Problem 2**

In the lower atmosphere where we live, NO and UV light catalyze the production,  $O_3$  from  $O_2$  as shown,



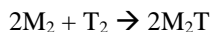
If 10.0 moles of oxygen react, how much in grams of  $O_3$  (1 mole = 48 g) is produced?

Given	Mole ratio	Molar mass Unknown	Unknown

Name \_\_\_\_\_ Period \_\_\_\_\_

**Skill 31.03 Problem 1**

Marshmallows (M<sub>2</sub>) react with hot tamales (T<sub>2</sub>) according to the following equation.

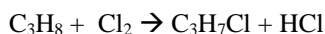


If 3.0 g of hot tamales (1 mole = 48.0 g) react with excess marshmallows, how many moles of MarshmallowHotTamalide can be made.

Given	Molar mass given	Mole ratio	Unknown

**Skill 31.03 Problem 2**

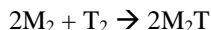
How much, in moles, of 1-chloropropane (C<sub>3</sub>H<sub>7</sub>Cl) is produced if 400. g of C<sub>3</sub>H<sub>8</sub> (1 mole = 44 g) react with excess chlorine gas according to the equation



Given	Molar mass given	Mole ratio	Unknown

**Skill 31.04 Problem 1**

Marshmallows (M<sub>2</sub>) react with hot tamales (T<sub>2</sub>) according to the following equation.



How much in grams of hot tamales (1 mole = 48.0 g) is needed to produce 2.0 g of MarshmallowHotTamalide (1 mole = 35.0 g)

Given	Molar mass given	Mole ratio	Molar mass Unknown	Unknown

**Skill 31.04 Problem 2**

Laughing gas (nitrous oxide, N<sub>2</sub>O) is sometimes used as an anesthetic in dental work. It is produced when ammonium nitrate is decomposed according to the reaction,



How many grams of NH<sub>4</sub>NO<sub>3</sub> (1 mole = 80 g) are required to produce 33.0 g of N<sub>2</sub>O (1 mole = 44 g)?

Given	Molar mass given	Mole ratio	Molar mass Unknown	Unknown

Chemistry  
Ticket Out the Door  
Set 31: Reaction Stoichiometry Part 2

Name \_\_\_\_\_ Period \_\_\_\_\_

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